ABSTRACT OF THE DISCLOSURE

One aspect of the present invention relates to a method for balancing the load of a parallel processing system having a plurality of parallel processing elements arranged in a loop, wherein each processing element has a local number of tasks associated therewith. The method comprises determining within each processing element a total number of tasks present within the loop, calculating a local mean number of tasks within each processing element, assigning a weight to each of said plurality of processing elements, and calculating a local weighted deviation within each processing element. The method also comprises determining the sum weighted deviations within each processing element for one-half the loop in an anti-clockwise direction and in a clockwise direction, determining clockwise and anti-clockwise transfer parameters within each processing element, and redistributing tasks among the processing elements in response to the clockwise and anti-clockwise transfer parameters.